

OF THE
UNIVERSITY of ILLINOIS.

HOW TO MAKE AND USE

AN

ALADDIN OVEN

OR A

SUBSTITUTE

A REPLY TO A VOLUMINOUS CORRESPONDENCE

BY

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JULY 4, 1901

DAMRELL & UPHAM
OLD CORNER BOOKSTORE, BOSTON, MASS.

TEN "PEPTIC PRECEPTS."

1. Box up your heat and don't waste it.
2. In nine cases out of ten, quick cooking is bad cooking.
3. The Lord gave the food, and the devil invented the common iron stove and range.
4. Next to the waste of food in this country is the waste of fuel.
5. Fifty pounds of bread, meat, and vegetables can be cooked with one quart of oil costing two or three cents, in three charges taking nine hours for the three.
6. In almost every house are old traps out of which an effective oven can be made by any boy or girl who has gumption.
7. In many homes, after every dinner, enough good food is thrown away to make a full and appetizing meal for the same family.
8. To those who possess gumption shall be given good victuals; from those who have it not shall be taken even what they have.
9. The way to learn how to cook is to cook something.
10. Anybody can cook anything who can learn how to cook something.

REMOTE STORAGE

THE ALADDIN OVEN.

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In order to meet the increasing number of letters in regard to the Aladdin Oven, and to do what I can to promote reform in the very bad, costly, and unwholesome practice in cooking, which is the rule rather than the exception throughout the country, this circular has been prepared.

I have terminated the arrangements made some time since with a manufacturing company for making and vending the Aladdin Oven under my trademark with the use of my name, not being satisfied with the quality of the ovens recently sent out. I hope better ones will soon be made for sale.

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I took out patents on this invention while it was in progress, in order to protect it from interference, afterward declaring the patents open to public use as I did not wish to put time, temper, and capital into the business of making ovens, nor to incur the risks of litigation which are sure to ensue on any patent which is of any value; patentees being considered suitable subjects for plunder. As the invention has not been kept under patent, it will take one or two generations before the oven comes into common use.

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I hoped that when the simple rules for boxing up heat in a jacket of non-heat-conducting material had been disclosed, the makers of the common gas and oil stoves would take up the invention and put suitable jacketed ovens into the market. It is a very simple matter to do so, but I observe that it is not apparently for their interest to save the enormous waste of oil and gas in their stoves. Almost every type of oven now used with the common oil or gas cooking apparatus can be jacketed and converted into an Aladdin Oven at very slight cost, with a very large relative saving in gas or oil consumed, and with very great improvement in the quality and digestibility of the cooked food. Stop the hole in the bottom with sheet iron, so as to shut out the dry, direct heat, and put a cozy over the outside, such as is described later. As the heat from a common oil or gas stove is excessive, it would be safer to get asbestos air-cell slabs from the Asbestos Paper Company, 71 Kilby Street, Boston. Use them and make the outer case a half-inch larger than the oven all round.

Whenever I can make suitable arrangements for making an improved Aladdin Oven under my trademark, and for putting it on sale, notice will be given to that effect in answer to the numerous letters on file. I retain the name or trademark in order to secure good construction.

It is not, however, necessary for any person who possesses a reasonable amount of common sense or who can command the services of a clever mechanic to wait until the Aladdin Oven is put on sale. Any one who possesses ordinary capacity can make an Aladdin Oven or can use a substitute. It may be necessary to make use of wood for the outer case, protected on the inside by plaster on wire lathing, by tin, by sheet iron, or by sheets of asbestos board, especially the air-cell asbestos board. Wood is the best non-heat-conductor, and when such an oven made of wood in the proper manner is used with common care, it is perfectly safe; but the same carelessness or stupidity which leads people to try to keep a fire bright in a stove or range by pouring on kerosene oil from a can might ignite an oven made of wood. A wooden oven heated by five lamps has been made and used for several years at the Tuskegee Institute in Alabama, in which the tough beef and mutton of that section are converted into tender, succulent, and nutritious food.

Buckets and tubs made of indurated fiber, commonly known as paper tubs, may be safely used as substitutes for the regular ovens. They are not as convenient, but the same kind of cooking can be done under a washtub or an inverted half-barrel or cask as in the oven, by any person possessing ordinary capacity, or by any person upon whose mind printed rules make any impression. Indurated fiber cannot be ignited, but it can be carbonized and reduced to ashes by gross carelessness in misplacing the lamp. The tub may have a tin tub fitted inside, and that will make it absolutely safe. I therefore advise any one who may make a wooden oven or use a tub or an empty half-barrel according to the plans and directions which are given herewith, to place the apparatus on a brick hearth in an open fireplace or upon a concrete floor, so that if any one is found so utterly incapable or stupid as to ignite the oven or carbonize the tub, the damage may be limited to the apparatus and its contents.

I submit this circular and these instructions as the only answer that I can find time to give to the very numerous inquiries that are put to me by letter. All that I know and all the instructions that I can give about the oven or in cooking will be found in the "Science of Nutrition," published by Damrell & Upham, Old Corner Bookstore, Boston; price, \$1.00. Reference was made in that book to an extremely useful and simple invention for raising bread, the Case bread raiser, which was on sale. The works in which that apparatus was made have been burned, and there do not appear to be a sufficient number of persons interested in the right method of making good home-made bread to have caused the patentees to attempt to put it again on the market.

Many inquiries have been made about a portable cooking vessel or pail, on which I have made experiments. I succeeded in making an excellent cooking pail, which could be carried about, cooking in a carriage on the road, in the woods or anywhere; but I cannot make it light enough or of sufficiently low cost to warrant a manufacturer in undertaking the work. Instructions given in the "Science of Nutrition" will enable any one to make a portable cooking apparatus of a small size who chooses to do so.

Let me here mention the Stuyvesant Ventilating Fresh Air Heater, invented by Mr. W. S. Stuyvesant, made and sold by E. F. Crosby, Brookline, Mass.

When I first heard of this invention, by means of which a room 16 x 22 x 9 feet can be kept at a uniform heat of 68° in midwinter, thermometer below 10° F., with two common B. & H. parlor lamps, wicks one and one-half inches in diameter, I thought the inventor must be a crank. So he is. But the cranks make the world go round. I have even been called one myself.

When confined to my room by grippe about four years since I tried and proved this heater. The outer air was warmed to an even temperature of 68° F. on a cloudy, cold winter day; thermometer outside 9° F. The products of combustion are carried outside. The heater can be placed at any window.

I now use one worked with gas in my private office, in order to avoid the discomfort of steam heating and to secure ventilation.

The Stanyan Bread-Kneader is made and sold by Edward Prescott, 54 Beverly Street, Boston. It is a most effective apparatus.

I have given up the effort to make people believe that full and complete nutrition for a workingman, including food in great variety, can be bought and cooked in the most wholesome and perfect manner, at a cost in Boston at present prices for food of not over a dollar a week for twenty-one good meals, including in the dollar the cost of the gas or oil needed for fuel. It would be a very simple matter for any one to verify that statement, yet it is commonly received with derision and by many persons seems to be considered an insult.

People who resent efforts to reduce the cost of living are hopeless; they would not have gumption enough to do it if they tried. Editors casting ridicule upon such efforts are as incompetent in dealing with this subject as they are apt to be unscrupulous in the general conduct of their papers and as they are ignorant of domestic science.

College students who are not engaged in athletics and women who cannot digest as much food as a workingman can supply themselves with complete and varied nutrition in this neighborhood at a cost of less than one dollar per week, without risk of, but often to the remedy of, dyspepsia.

Every process of cooking, including roasting, baking, braising, sautéing, stewing (not frying), suitable to the Aladdin Oven may be worked in china, stoneware, or ordinary vessels made of clay, in which the food can be served. The finer the porcelain and the higher the heat at which it has been fired, the less the liability to crackle in the moderate heat of the oven. Broiling in the oven requires a metal pan and grill. One quart of oil—say two pounds—does the work of one hundred and twenty pounds of anthracite coal or more, and does it better. Hot water and metal cooking pans which are difficult to keep clean are not required. A pan of water may be kept on the top of the oven or tub, where the water will become warm. After meals put the greasy dishes into the tepid water; put in a dash of kerosene oil, a large spoonful or two. The oil will make an emulsion. Work the dishes around a few minutes and they will be taken out clean, and very bright when wiped. The oil is also antiseptic, much more fit and wholesome to use for washing dishes than common soap, which is often very nasty. This emulsion will not clog the sink or drain pipes. The common idea that kerosene oil is not clean, when in fact it is one of the purest substances derived from nature, may only be attributed to its bad smell. The smell almost wholly disappears when the oil and grease are combined in an emulsion.

These facts about the cost of food and the easy and simple method of cooking in this apparatus are sustained by the experience of a very large number of skilled mechanics; by artists, by sportsmen, by teachers, in many private families where there happens to be one man or woman capable of being taught in a simple way, and at the Tuskegee School for the whole institution. I shall add a little evidence on this point in the appendix.

If any person feels insulted by the suggestion to buy cheap cuts of meat, their practice may begin with canvasback ducks or other game, venison, tenderloin of beef, sweetbreads, terrapin, Smithfield hams, and other luxuries. Those who do not care for a game bird scorched on the outside and raw within may enjoy ducks and game cooked at a moderate heat in a uniform manner, either rare or well done, without any loss of juices. To many such persons the oven has given great satisfaction. In some cases epicures have written me or told me that they had never really tasted the true flavor of some kinds of game, like quail and partridge, and of many kinds of vegetables, until they had eaten a meal cooked in the Aladdin Oven.

Although all these facts are very elementary and have been proved by myself at many game dinners which I have given to my friends, cooked under an empty half-barrel in the dining-room without any offensive smell, and although I have given many dinner parties at fifteen to twenty cents a guest for five courses, which have been declared equal to the customary table d'hôte dinners at the best clubs, they are still doubted. I have ceased to make any further personal effort "to ameliorate the condition of the

rich" except when my service is asked to cure very bad cases of dyspepsia, corresponding to several which have been cured by the use of the Aladdin Oven.

Bread baked four hours at a moderate and uniform heat, with a pan of water on the top shelf of the oven to keep the crust from hardening, has a finer flavor, is perfectly digestible even when eaten fresh, and will keep sweet and moist longer than any other kind of bread.

My experience and my voluminous correspondence have led me to a conclusion which I will venture to state. I have a copy of a school-boy's composition on self-dependence, which he describes as "that quality in the human mind which leads us to get somebody else to do for us what we ought to do for ourselves." I am convinced that this is the absolutely hopeless state of the large majority of both men and women when they take up the problem of cooking. I can supply ovens, and the instruction how to make and use them; I cannot supply gumption, and I do not find that it is taught in boys' schools or even in women's colleges.

The highest compliment ever paid to this oven was somewhat at my own expense. One of my friends after enjoying a dinner remarked that the invention was "so simple that nobody but a fool would have thought of it." I may apply that remark to the process of cooking in this oven: nobody but a fool can fail in the practice of cooking in the Aladdin Oven. All that is needed is common sense enough to keep a good lamp in order; or, if one does not possess that faculty, gas may be used with a Bunsen burner where it is available. (See "The Science of Nutrition.")

In order to enable boys and girls who possess the faculty to become good plain cooks, after an experiment of one or two weeks and some failures, with the aid of my book, I have added to other plans for making ovens one derived from the experience of a Vermont woman, who wrote me that, feeling somewhat aggrieved by my reference to the difficulty of overcoming the "inertia of woman," she had made an oven out of old traps lying about the house, and had wholly overcome the "inertia of a husband" by her success in supplying the household with better food than ever before.

I adopted her invention and sent an oven of my own make to the last exhibition of the Massachusetts Charitable Mechanics Association, in response to the request of the directors that members should prove their claim to be mechanics by contributing examples of their own handiwork. A diagram and description of this oven, varying but a little from the one made by the Vermont lady, who used an old tea-chest for the outer case, and corresponding to my own example of mechanical skill, is given herewith.

If any one tries this system I shall be glad to receive an account, especially from boys who may try it in a summer camp.

BOYS' AND GIRLS' ALADDIN OVEN.

To be Made out of Old Traps Lying Loose around the House.

Any boy or girl who has gumption enough to get up such an oven will be able to learn how to cook meat, make pies and cookies, and bake bread in one or two weeks by using my book.

Refer to diagram : —

A. Take an old wooden chair of which the legs are not broken ; saw off the back.

B. A good factory hand lamp, consisting of a heavy font encased in tin, with a wick about two inches wide for a cracker-box oven of the size named. If larger boxes are found, a duplex burner will be the best. The Trench burner is the safest and most easily managed. The factory lamp and Trench burner can be had from the Jones, McDuffee & Stratton Company, Boston.

C. Get a sheet of tin or iron about two feet square and cut a hole in the middle about six inches square. Nail it to the chair legs. Turn the edges down so as not to cut yourself.

D. Take an old tin cracker box, 10 x 10 x 11 inches, or a bigger one if you can get it. Cut a round hole on one side, two and one-half inches in diameter. Set that round hole over the hole in the sheet iron.

E. Get another old tin cracker box, about an inch smaller every way. Do not cut any hole in this. Put it inside the big box. Stand it on two supports, marked J, J, described hereafter, so as to have a clear heat space all around the inner box.

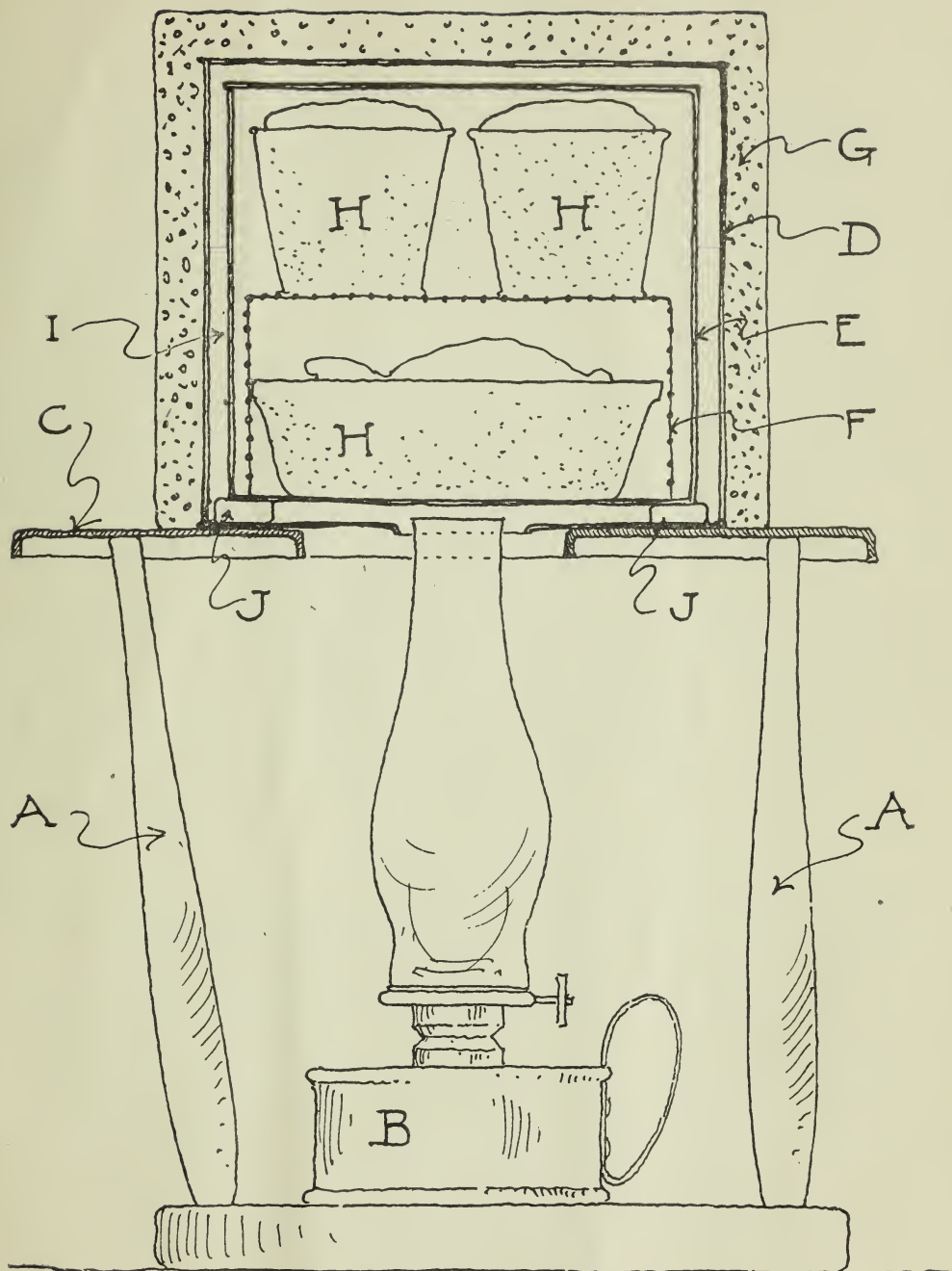
F. Make a two-story wire frame, so as to be able to put two sets of cooking vessels into the oven, one set above the other.

G. Take an old felt tablecloth or an old blanket and one or two voluminous Sunday papers — the more dull and full of rubbish, the better. The Sunday edition of the *Sun*, a paper published in New York, will serve the purpose fully. Stitch the padded Sunday papers into a pad to cover the oven, with a thickness of the old tablecloth inside and out. Use this like the cozy with which teapots are kept hot, so that it will fit loosely over the outside of the cracker-box oven. Protect the lower edges of the cozy which will rest on the iron table with some sheets of old tin, brass, or zinc, so as to prevent scorching the paper or felt.

H. Cooking vessels or jars — china or stoneware the best.

I. The interspace for the circulation of hot air between the inner cracker box and the outer one. This space may be from three-fourths to one and one-half inches.

J, J. Two slabs of soapstone or tile or of sheet metal made into an oblong square about eight inches long, two inches wide, and three-fourths to one inch high, according to the relative sizes of the two tin cracker boxes.



Being thus equipped, put the food into the oven; close both the covers, which are to open sideways as doors. Put the cozy over the outside; light the lamp, with the flame low at first; place it under the hole as close up as may be without causing the lamp to smoke. Wait a few minutes for the wick-holder to heat, then put up the flame to the standard at which the lamp burns clear and bright. Then go out and play tennis, croquet, hockey, or marbles, or get your lessons until dinner is ready. How long will it take? That is for you to find out by practice; some things take longer than others.

If you cannot find such old traps and tin boxes about the house, then use your own wits and find something else that will do. If you have any gumption you can find them; if you have n't any I can't supply it. In finding out whether you can make an oven and learn how to cook, you will also find out whether you will ever be capable of going into business on your own account, managing your own affairs, and directing others; or whether you must serve as a clerk in a shop or under a boss or become a member of a trades union and do just what the master workman tells you to do with your own time and such faculties as you may happen to possess.

If any boys or girls try this experiment, I hope they will write me an account of success or failure, and send me a cookie or a biscuit.

The experiment described in the "Springfield Union" is one of many of which I have received reports.

As I knew nothing of it before it was undertaken and have never met the young men, perhaps it will be accepted as good evidence by the incredulous.

SIX CENTS A MEAL.

Interesting Experiment of Training School Students. They Purchased an Aladdin Stove and Did their Own Cooking for Seven Weeks with Great Success and a Money Saving.

The problem of cheap living, while enjoying first-class diets, with some luxuries thrown in, has been solved in a very satisfactory way by four students at the training school. These young men, W. W. Hastings, W. B. Goodale, J. M. Ramsey, and N. E. Sanders, concluded that they could reduce their expenses very materially by doing their own cooking. They formed a club, which they named "The Square," because it was composed of four, all square fellows. They then purchased an Aladdin Oven, the invention of Edward Atkinson, the writer and student of economics, and on April 22 commenced operations, which were continued until June 16.

The faculty of the school, being interested, gave the young men the use of a small

room on the second floor of the gymnasium building, which they fitted up for a kitchen and dining-room. In this was placed the oven and a table, which served as a storage table and work table combined, and a smaller table used for dining purposes.

The Aladdin Oven is an interesting and yet simple affair, which will cook for a dozen as well as for four. Smaller ovens are used, called the "bucket" ovens, and one of these would have done the work just as well as the large size. But the young men were making an experiment and did not know what size would best answer their needs.

This Aladdin Oven is about eighteen inches square and stands about the height of a common gas range. The outside lining is also of sheet iron, but between the lining and the asbestos is an air chamber completely surrounding the oven proper.

The oven is heated by a large kerosene lamp placed beneath the center of the oven and directly under a small opening, slightly larger than the top of the lamp chimney, which reaches to within a short distance of the opening.

On the top of the oven is a small ventilator, which is used to cool down the oven should the heat become higher than desired. The heat from a lamp is sufficient to run the oven without forcing, but by a larger lamp and burner the heat can be raised within a very short time.

The air-cell asbestos lining to the outside wall of the oven serves to keep all the heat within, and as the air chamber is free, the heat surrounds the interior lining and remains in all places about the same.

The oven cost the young men \$23, and the express was \$1.20 more. Then they laid in a small stock of dishes, cutlery, and utensils, only just what was necessary, at an expense of \$1.35, making the whole outfit cost \$25.55.

The term of school has now closed and only two of the young men are to return for the fall term. One of these has formed a new square and has purchased the stove or oven from the present square at a price which makes the rent of it for the time it has been used, including the expressage on it, \$8.20.

It is an interesting fact that not one of the young men had taken cooking lessons, but all are enthusiastic over the experiment and pronounce the oven just the thing for young men working their way through college.

One of the members, Mr. Goodale, was assigned to do all the buying. Mr. Sanders did the cooking, and the other two set the table, washed the dishes, and kept things in shipshape in the combined dining-room and kitchen.

In this way there was no choice for conflict of authority, and all worked and enjoyed the work.

WHAT THEY COOKED.

From April 22 to May 15 an account of everything purchased was kept in itemized form, with the cost price. Here is the list of articles purchased and the prices paid : —

2 pounds sausage	\$0.23	Fresh fruit	\$0.20
21½ pounds meats	1.47	½ bushel potatoes . . . .	.30
2 pounds bacon . . . . .	.20	Turnips . . . . .	.05
8½ pounds butter	1.78	5 quarts beans . . . . .	.25
24 pounds sugar	1.31	Macaroni . . . . .	.10
10 pounds prunes . . . . .	.79	Pepper . . . . .	.07
4 pounds dried apples . . .	.20	Salt . . . . .	.05
4 pounds dates . . . . .	.32	Vinegar . . . . .	.08
2 pounds figs . . . . .	.20	Nutmegs . . . . .	.05
½ pound onions . . . . .	.07	1 quart pickles . . . . .	.14
4 pounds flour . . . . .	.12	2 cans sardines . . . . .	.24
3 pounds oatmeal . . . . .	.18	Canned vegetables . . . .	.37
3 pounds rice . . . . .	.21	Fresh vegetables . . . . .	.30
2 pounds honey . . . . .	.20	Cocoa . . . . .	.35
Bread stuffs . . . . .	.13	3½ dozen lemons . . . . .	.38
Pastry . . . . .	.35	32 quarts skimmed milk . .	.64
6 dozen eggs . . . . .	.91	4½ gallons oil . . . . .	.45

From May 15 to June 16, the cost of oil to run the oven was seventy-five cents, fifty-one quarts of skimmed milk were used at a cost of \$1.02, and the other food stuffs cost \$13.83, making a total of \$15.60 for the second period. The total cost from April 22 to June 16 inclusive was as follows : —

Food stuffs	\$27.85
Oil	1.20
Rent of stove	8.20
Dishes	1.35
Total	<u>\$38.60</u>
Less stock on hand	1.00
Net expense	<u>\$37.60</u>

The period covered was not quite eight weeks, but made thirty-one weeks' board. Each week did not represent twenty-one meals for each member of the square, as frequently one or more would be away, but the total average weekly expense was \$1.21. Deducting the cost of the stove, the expense was 90½ cents per week.

The total number of meals had, not including meals served to visitors, of which

there were quite a number, was 465, making the actual net cost of each meal, less the rent of the oven, but six cents.

From the items of food stuffs purchased, it will be seen that there was no wide variety of dishes possible, but the young men say that they never ate more satisfying food or food better cooked.

For breakfast, milk, cocoa, bread and butter, and some cereal formed the bill of fare. Oatmeal or rice would be placed in the oven at night, the lamp maintained until the quartet was ready for breakfast.

After breakfast, as a rule, the dinner would be put in the oven and it would be ready for the table at the noon hour. Roasts of beef, stews, soups, baked beans, or eggs would be the chief article for dinner. Bread and butter, cocoa, and some kind of pudding would usually be had, with dates or figs.

For supper, bread and butter, cake and some fruit sauce, with lemonade, made up the bill of fare.

As to the food, it was cooked slowly, which is claimed to be the proper way to cook it. Meats in the oven did not throw off odors which carry with them a part of the nutrition of the meat; and as for beans, the young men say that they never ate beans which approached in excellence those cooked in the Aladdin Oven.

Onions cooked so slowly that when the oven door was opened, not the least odor of them would be detected. Puddings baked beautifully; and while the experimenters did not try to bake bread, they believe that if they had understood how to prepare it for the oven they could have baked it in great shape. The chief advantage next to economy in cost was in economy of time, as it took but a few minutes to prepare the meals.

Edward Atkinson is much interested in the experiment which "The Square" made. He says:—

"I could give you a large number of examples of benefits corresponding to those enjoyed by the young men whose experience you are about to give. For instance, two Scotch boys applied some months since to Professor Hopkins, of Amherst College, for advice. They had previously saved what they believed to be money enough to go through their college course, but their funds were approaching exhaustion. On examining their case, he found that they were paying \$2.50 a week for their board. He took to their rooms a bucket oven, which he had made on my principles under the instructions in my book on "The Science of Nutrition," and taught them how to use it. They adopted his suggestion, reduced their expenses for food to seven cents a day, living better than they had before at the boarding-house. They thus saved money enough to complete their college course.

"During their term they gave an exhibition for the benefit of the baseball club,

showing other students how they did it and getting a very considerable sum from fees paid for attending the lecture. I only learned of this within a few weeks, and am now seeking through the professor to get a copy of their dietary.

“In another instance a very intelligent mechanic came to me one day from New Hampshire to ask for a little additional information that he had not found in my book. He stated to me that about a year before he had lost his wife, leaving him with four boys, well grown, mostly of school age. The question came how to maintain the family. He and the boys concluded to keep together, adopting my methods, with two large stable buckets for their ovens, and had gone on with entire success, living as well as they ever had. His wife had taught him how to do it before she died.

“Two friends of mine bought the ovens on their merits, not dreaming of the important influence which they might exert in the health of their families. Each had two somewhat puny children, who would not eat meat as the doctors wished them. They were anæmics, feeble and listless. When the meats cooked in my oven were put upon the table, they ate them with avidity, became hearty, strong and vigorous.

“Again, Mrs. W. M. Cantrell, of Alabama, has lately sent me an account of her experience, with liberty to print it. The summary is this: Two or three years ago she wrote me to know if it were possible that she could direct the cooking for her family from the couch to which she had been brought by the worst form of dyspepsia. I told her what might be done, and she then wrote to know if it would be possible to cook hot soda biscuit for the breakfast of the family,—death to her, but deemed necessary by them. I told her that by careful supervision of the Jumbo lamp of high power she could bake quickly and deliver the soda biscuits in their customary bad form of hot bread. She ordered the whole equipment, Jumbo lamp and all. I heard nothing more for a year, when she wrote me that I had accomplished all that I had claimed and yet more. On tasting the food cooked on the principle which I had held out, of slow and complete cooking, she found that she could eat it and digest it, and she states that she has brought her weight up from one hundred and twelve pounds to one hundred and fifty pounds, and from being confined to her couch to becoming as active and vigorous as any woman in the place.

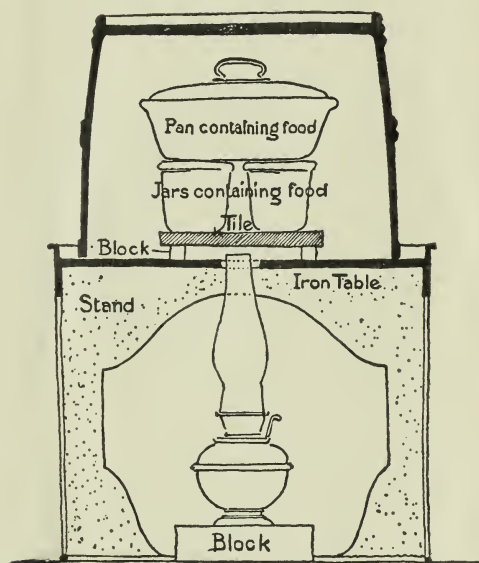
“These are but a few of the many examples which have given me a profound sense of satisfaction in attempting to overcome the incredulity and inertia of the great mass of the people, coupled often with a modicum of personal abuse on the strange ground which so vitiates the minds of many working people, namely, that if the expense of living is reduced the wages will be cut down in corresponding manner,—a singular evidence of the total lack of comprehension of economic and of physical science on the part of those who need intelligence more than any other class.”

[From the Home Magazine.]

THE SCIENTIFIC PREPARATION OF FOOD.

The rule in cooking anything is like Mrs. Glass' rule about the hare, — "First catch your hare." I add to that rule. First catch your heat, next catch your hare and then cook it.

The same buckets which will hold water when put upon a table in the usual way will hold heat when put over a metal table with a hole in the middle, bottom up, over a



SECTIONAL VIEW OF A BARREL OVEN.

lamp. Put a good, well-trimmed lamp under that hole and you will hold heat enough in your bucket or box or your butter firkin to cook almost every kind of food in the most wholesome, appetizing, and nutritious manner. I need not deal at length with this matter as a theory. I will give you the practice of one of my correspondents, who lately sent me a statement of it. He writes me as follows: —

"I bought your book, 'The Science of Nutrition,' in the summer of 1893, and in the fall of the same year made an oven which I think is the cheapest practical oven

ever made which embodies your idea, and is in all probability without a parallel. I will describe the parts:—

“First, the stand—an old pine, bedroom light-stand that had one leg broken near the ankle. It had been thrown into the shed to be broken up for kindling wood. By shortening the legs (no lard used except on the saw) and taking off the top, I had a support 18 x 18 and 20 inches high.

“Second, the bottom of the oven—an old tray 20 x 26 inches, the japanning showing more-rusty freckles than a coach dog shows spots. After a thorough cleaning I made a circular hole in the center, into which I inserted an empty baking powder can. (Sides of empty can I had punched half full of holes. I could have put a few more holes in, but one cannot fill an empty can entirely full of holes.)

“Third, an old tin strainer or colander (made like a sieve for ashes, round with straight sides).

“Fourth, the top and sides of oven—a large tin can or pail, thirteen inches in diameter and sixteen inches deep. (This had been used for lard, but the once symmetrical shape was as furrowed as the torso of a starved goat.)

“Fifth, the heat-retaining jacket—an old ice-cream freezer tub. As I was cleaning and rubbing the rust off the iron hoops the familiar of the ring¹ emerged from the tub and said ‘*Adsum?*’ (‘What do you desire?’) I was surprised at the appearance of the genii, but not being quite ready I said I would summon him again when wanted, and as he disappeared in the depths of the tub I heard these words: ‘Well! Well! this is a topsy-turvy world, sure enough. What was made to stand bottom down and hold cold is about to be made to stand bottom up and hold heat.’

“Sixth, the power—a large-sized bracket lamp, leaky about the top, and having no burner.

“All these parts had been relegated to the realms of the useless. ‘They had seen better days,’ and were mentally branded by the housekeeper N. E. G. (no earthly good). The hoops of the tub could have been sold for cash to the junk man, or exchanged for a new tin dipper. But with the aid of the genii I could see in them a marvelous creation in the shape of an oven. So, rubbing the ring, I summoned the genii and exclaimed, ‘*Haka!*’² Soon the apparatus was in shape, and the genii, making a *tamanna*,³ vanished. The old lamp had been mended and a new duplex burner furnished, and now the oven was ready for the trial. Into some marmalade and fruit jars I put, according to the directions in the book (‘Science of Nutrition’), beans, rice, cheese, an omelet, and some coffee, with the necessary gumption, which the genii

¹ Hoops of the tub. (See the story of Aladdin.)

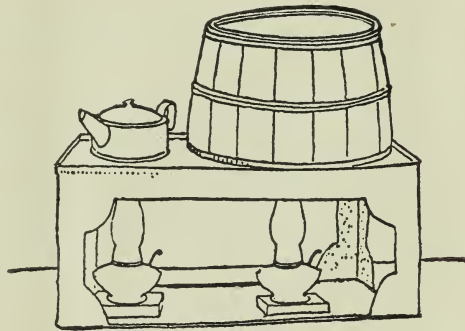
² “Here ’s for thee.”

³ A salutation made by kissing the tips of the fingers and placing them on the brow.

had brought and left for my use. Erewhiles the lamp had been lit, and the oven being ready, in went the food, and in two hours everything was cooked to the queen's taste. So the genii was installed as the ministering spirit of the house.

"This is the story of my oven, made by myself and put into operation by the genii to prove the theory contained in your book, which my wife declared would not work. She knew better; it was all nonsense; could n't tell her that cooking could be done by heat from the top of a lamp. 'The man that says so is crazy, or trying to dupe fools out of their money.' Well, it proved your theory to be practical.

"You call this the inertia of woman. I think if it were simply inertia it would be



ALADDIN BARREL OVEN, AND TEAPOT

easily overcome. It is not superstition, although a great many women would n't buy an oven on Friday, unless it was a bargain day and the price had been reduced. Well, what shall we call it? I think we had better not name it. They are the gentler sex, therefore we wish them better health, more wealth, and less worry in the daily routine of life, and I gladly recommend the Aladdin Oven and 'The Science of Nutrition' as avenues to that desirable end.

"The oven is *The Cooker* that will transform the raw materials of nature into the quintessence of prepared food."

Several Aladdin Ovens were in use in the Rumford Kitchen at the Columbian Exposition in Chicago in 1893, under the supervision of Mrs. Ellen H. Richards, of the Massachusetts Institute of Technology.

Among other leaflets the following was published.

THE RUMFORD ROASTER AND THE ALADDIN OVEN.

There seem to be nodal points where the revolving centuries bring to light the ideas given to their keeping; points where thoughts materialize again and are communicated to those sensitive enough to receive them. An instance in point is the famous Rumford Roaster, of which a model may be seen in the east end of the Rumford Kitchen. It was the product of the thought of a Massachusetts man one hundred years ago, although developed in far-away Bavaria, and it seems to live again at the end of another century in the thought of another Massachusetts man and on Massachusetts soil.

In both cases the thought was to save fuel by utilizing all the heat produced by its combustion for the purpose for which it was burned, and not to heat the surrounding country nor to roast the cook.

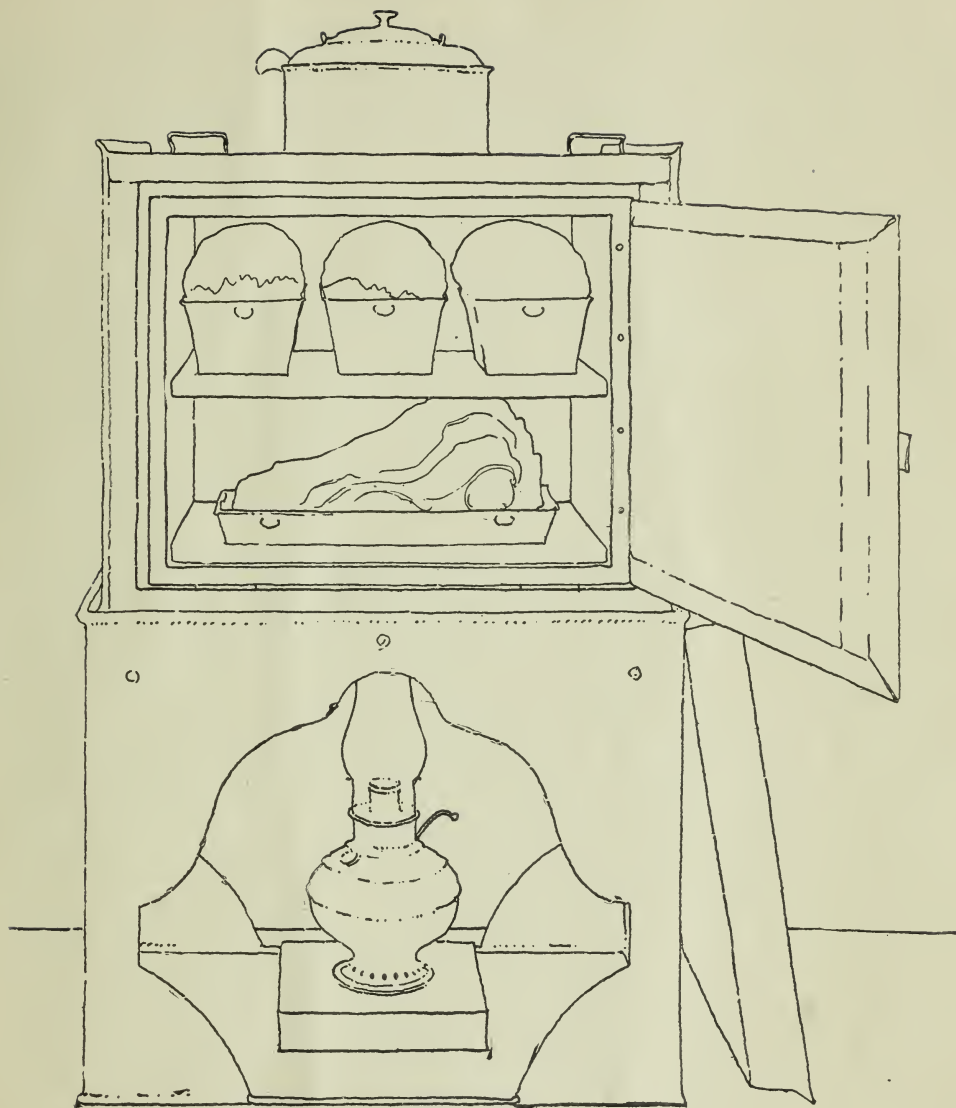
In both cases, however, the beneficial effect on the quality of the food was of greater value than the mere economy. Count Rumford himself says: "I am happy when I find that improvement leads to economy, but I have always thought that excellence should never be sacrificed to paltry savings in anything."

He also says: "On the first view of the matter it appears very extraordinary indeed that any person should ever, in any instance, neglect to avail himself of an invention or contrivance within his power to obtain that is evidently calculated to increase his comforts or to facilitate his labor or to increase the profits of it; but, when we reflect on the subject with attention and consider the power of habit, and then recollect how difficult it is even for a person to perceive the imperfection of the instruments to which he has been accustomed from his early youth, our surprise that improvements do not make a more rapid progress will be greatly lessened."

The Aladdin Oven, like its predecessor, is a scientific appliance, an instrument of precision and not a universal machine, and to those who will take the pains to study the principles upon which it works, and to revise the customary bill of fare according to the best available knowledge, it will bring a revelation of possibilities in the way of flavor and nutritive qualities of the simplest food materials. But to those who have neither time nor patience to learn to bring the rich harvest of science into the home kitchen, it will prove a delusion and a snare.

Let him who thinks to invest in an oven study well the pages of "The Science of Nutrition," published by Damrell & Upham, Boston.

The Standard Oven used in the Kitchen is a sheet-iron box, 18 x 12 x 14 inches, or rather larger than the common kitchen oven, enclosed in a larger box of prepared wood pulp, to keep the heat where it is wanted.



THE ALADDIN OVEN.

One quart to three pints of kerosene oil, or one six-foot Bunsen gas burner, will give sufficient heat for eight hours' cooking. The food may be cooked in the dishes from which it is served, as the heat is under absolute control, and may be so regulated that nothing is burned, while with the ventilator closed the evaporation of water is so small that nothing is dried up.

THE RUMFORD KITCHEN.

CHICAGO, 1893.

Since that date, ovens have been made of an outer case of two thicknesses of sheet iron, one inch apart, the space between being filled with air-cell asbestos board. Asbestos itself is incombustible, but is a rather quick conductor of heat; it serves to hold entrapped air in the cells and thus becomes an effective non-conductor.

I now put a loose plate of sheet iron, set up half an inch, between the meat dish and the bottom of the oven, to prevent the excess of heat where it first strikes.

In broiling, this loose plate is removed; a metal pan is placed directly on the bottom of the oven, in that a grill on which steaks, chops, and birds are broiled without losing any of the juices or burning the fat.

Any of the lamps of the so-called "Rochester" type, with circular wick one and a half inches in diameter, will serve the purpose. I use in my own family and recommend the B. & H. lamp. I find that kerosene oil of 150° flash is on the whole the best; it yields more heat and light for the money than oil of the common standard of 110° flash.

It is sometimes expedient, even necessary, to cook quickly at the risk of doing it badly. Such work can be done with an extra so-called "Jumbo" lamp of the Rochester type, with wick three inches in diameter; by the use of which the temperature in an Aladdin Oven can be carried up to the common standard of the range or cooking stove. The advantage in cooking at a moderate heat for a longer time is that neither the juices of the meat nor of the vegetables are distilled, nor are fats converted from a nutritious to an indigestible condition, as they are at a high heat. Three hundred and twenty degrees Fahrenheit is the highest temperature to which the Aladdin Oven of the customary type can be brought with the one and a half inch wick. At or below that temperature, meat, fish, onions and other vegetables, and custards can be cooked at once without any disagreeable odor and without impairing the specific flavor of either. Simmering meat is done at less than the boiling point. To boil meat is, as a rule, to spoil it. Boiling separates the fibers one from another, but does not dissociate each fiber. Boiled meat which will fall to pieces is therefore often very stringy and tough. At the low temperature, long continued, the fibers are dissociated and the meat becomes easy of digestion.

I hope that I have covered every point in this circular, but will add in answer to one question of the type of many that have been put to me: Although one can cook nine tenths of all the food required by a family of ten persons with one lamp, I cannot give instructions how to heat the bath boiler and warm the house with the same lamp at the same time.

In the development of this fad, which has been my recreation in a very busy life (every business man ought to cultivate a fad, no matter what it is, else he will become a mere automaton), I have loaded two large shelves in my library with books upon food and feeding and upon cookery, mostly rubbish or repetition.

The voluminous scientific treatises are not adapted to popular use, but must be consulted by students who try to master the science of nutrition. I may name as the latest, most complete, and most useful work, "Food and Dietetics," by Robert Hutchison, M.D., — an English book, published in New York by William Wood & Co. It contains among other useful information an analysis of all the patent, proprietary, and health foods, food for infants, etc. Many of these are of great value; many are merely quack names for common and cheap food materials.

Among the more popular treatises, I have found the most information for the unscientific in "The Chemistry of Cookery," by Dr. W. Mattieu Williams; in "Food and Feeding," by Sir Henry Thompson, M.D.; in Mrs. Ellen H. Richards' invaluable works on "Domestic Science"; and in the extensive and varied treatises by Prof. William O. Atwater.

Most of the cookery books contain a mere hash or re-hash of old recipes on the art of mixing things; nearly all are without the slightest pretense to the development of the science of applying heat to the cooking of food material. The same criticism might be made of the common practice in teaching cooking, with some notable exceptions. Given good materials and a taste for flavoring, it is very easy to get up innumerable recipes for sauces, puddings, cakes, soups, and pottages. Anybody can, after a little practice, make a good soup or *potage* for to-morrow out of the fragments of to-day's dinner by keeping some stock on hand for a basis. Use a chafing dish for making experiments in sauces.

One notable exception in the mass of rubbish upon cooking is Mrs. Mary Hinman Abel's Lomb Prize Essay on "Practical, Sanitary, and Economic Cooking," almost the only one which deals in any scientific manner with the application of heat to the conversion of food material into nutritious food.

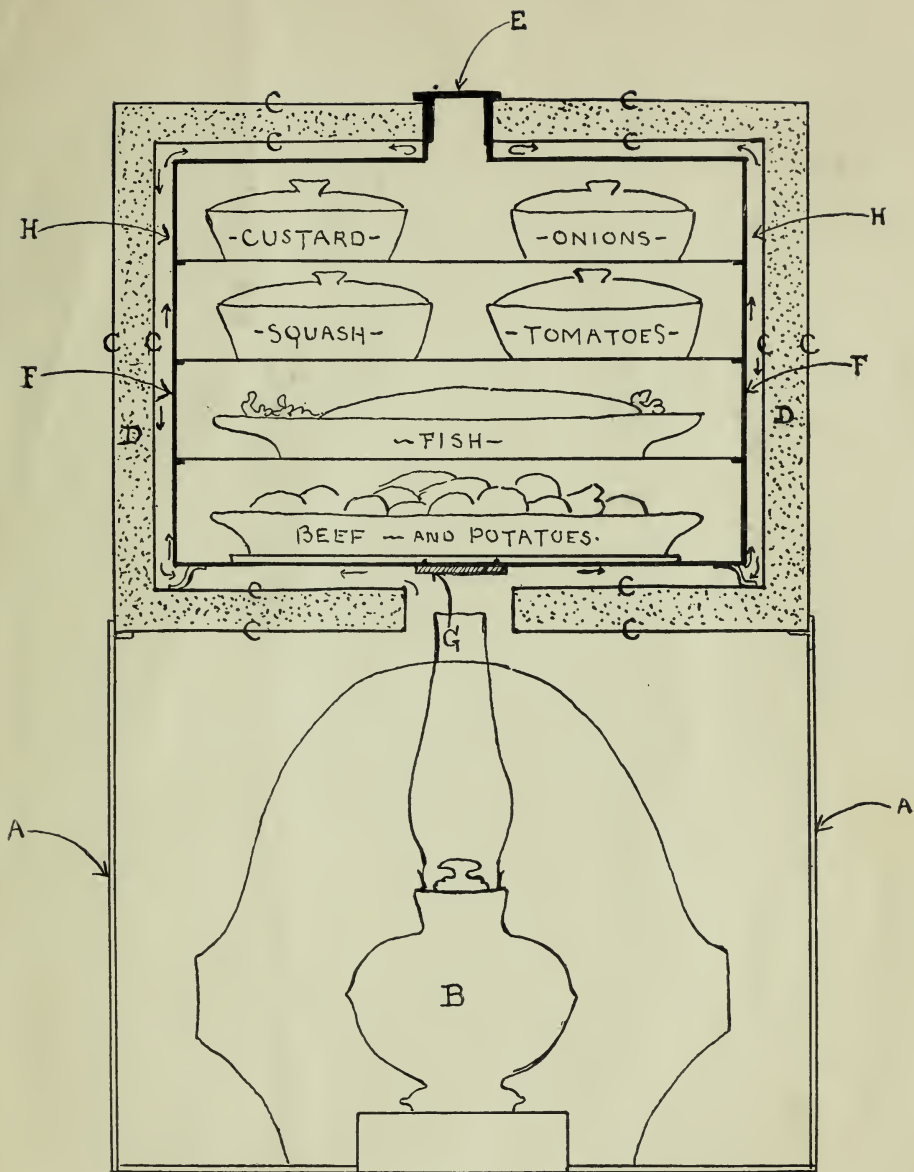
I am indebted to Professor Atwater, to Mrs. Richards, and to Mrs. Abel for about all the science there is in my book on "The Science of Nutrition." I am the duffer who entered in where science feared to tread, in order to show how to box up a little heat and to put it to the most effective use in the domestic kitchen.

I have also remarked that most of the popular teachers and writers upon cooking and the compilers of the hashed-up recipes, miscalled cookery books, seldom or never make any reference to the Aladdin Oven or to the true science of cooking. They may perhaps be a little afraid that the simple art of cooking may displace the complex art of mixing things and trying to make them palatable by standing over a hot coal stove or range in the effort to overcome its irremediable faults.

I have stated and proved by many examples that any intelligent boy or girl who possesses common sense and gumption can master the art of cooking or applying heat to food material in a week or two when provided with suitable apparatus.

I may perhaps call this treatise "The Bread-Winner's Declaration of Independence; or, The Revolt against 'Biddy,'" dated July 4, 1901."

EDWARD ATKINSON.



SECTION OF THE ALADDIN OVEN

A. Iron Table. B. B. & H. Lamp, round wick $1\frac{1}{2}$ inches diameter. C, C. Outer Oven of metal, double wall. D, D. Asbestos Air-cell Packing. E. Ventilator capped. F, F. Inner Oven. G. Plate of iron to take first heat. H, H. Heat Chambers. Inner Oven, 18 inches wide, 14 inches high, 12 inches deep.

